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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,278	06/29/2004	Hiroyoshi Tominaga	120214	9347
25944	7590	08/31/2007		
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			EXAMINER RACHUBA, MAURINA T	
			ART UNIT	PAPER NUMBER
			3723	
			MAIL DATE	DELIVERY MODE
			08/31/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/500,278

Applicant(s)

TOMINAGA ET AL.

Examiner

Maurina Rachuba

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☐ Claim(s) \_\_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 27,28,32,33,37 and 39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Allowable Subject Matter*

1. The indicated allowability of claims limiting the lower turn table comprising a plurality of load supporting points disposed along a third pitch circle having a third diameter equal to the first diameter is withdrawn in view of Simpfendorfer et al, 5,197,230 and Kotagiri et al, 6,080,048. Rejections based on the reference(s) follow.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 27, 28, 32, 33, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simpfendorfer et al, 5,197,230, previously cited, in view of Kotagiri et al, 6,080,048, previously cited. '230 discloses an apparatus and method for its use, the

apparatus comprising a carrier plate **35**, upper and lower turn tables with polishing disks, slurry supply means, see column 3, lines 6-10, disclosing the equivalent of applicant's slurry supply means **34**, see for example applicant's figure 4; the upper turn table comprising a plurality of load support points **Pe** corresponding to a diameter equal to a diameter of a pitch circle formed by the center of each wafer holding hole, the lower turn table comprising a plurality of load support points **Pe** corresponding to a diameter equal to a diameter of a pitch circle formed by the center of each wafer holding hole.

'230 does not explicitly disclose that the disks are polishing *pads*, or that the motion of the carrier is circular without rotating (orbital). '048, in a similar apparatus and method for its use, teaches the use of polishing pads to polish wafers, and that the carrier is orbited between upper and lower rotating polishing plates. Because both '230 and '048 teach apparatus and methods for polishing wafers on both sides simultaneously, it would have been obvious to one of ordinary skill in the art to have substituted one polishing surface for another, to achieve the predictable result of polishing the wafers, see '048, column 5, lines 11-18, and to have substituted an orbital motion to the carrier, rather than a rotary motion, for the predictable result of more efficiently and uniformly polishing the wafers, see '048, column 3, lines 7-18.

5. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Simpfordorfer et al, 5,197,230 in view of Kotagiri et al, 6,080,048 as applied to claim 37 above, and further in view of Duescher, 5,967,822. '230 as modified by '048 does not teach controlling the temperature of the upper and or lower turn tables. In a similar apparatus, '822, column 14, lines 48 through column 16, lines 5, teaches that it is old

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and well known to control the polishing of wafers based on the temperature of the polishing devices. It would have been obvious to one of ordinary skill in the art to have provided '230 as modified by '048 with control of the device based on the temperature of the polishing devices as taught by '822, column 14, lines 48 through column 16, lines 5, to prevent hydroplaning, and non-uniform polishing of the wafers. Note that applicant has not defined any specific mechanism or method step that is controlled. Here, '230 clearly teaches controlling the amount, location and frequency of the liquid introduced between the wafer and polishing devices.

### ***Response to Arguments***

6. Applicant's arguments with respect to claims 27, 28, 32, 33, 37 and 39 have been considered but are moot in view of the new ground(s) of rejection. The pending application has been thoroughly reviewed. It is noted that applicant has not claimed any structure that would limit the load support points. Therefore, as **broadly** claimed, it is the examiner's position that '230 clearly provides such points on both the lower and upper polishing mechanisms. Applicant may overcome this rejection by clearly and definitely claiming the fixing devices of the upper plate, and the thrust bearing of the lower plate, that provide the load support points.

7. As the indicated allowability of claims limiting the lower turn table comprising a plurality of load supporting points disposed along a third pitch circle having a third diameter equal to the first diameter is withdrawn in view of the references applied in the rejections above, this rejection is non-final, to allow applicant fair opportunity to respond.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maurina Rachuba whose telephone number is 571 272 4493. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail can be reached on 571 272 4485. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. Rachuba/  
Primary Examiner  
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